

**EXPEDITED PROCEDURE  
GROUP ART UNIT 2814**

Turning to the prior art rejections, claims 1-6 and 8-11 are at issue in the instant application. Claims 1-5 and 8-11 were rejected as unpatentable over Majumdar et al. (U.S. Pat. 5,703,399) and Drake et al. (U.S. Pat. 6,281,574) in view of Ishigami (U.S. Pat. 5,057,906). Claim 6 was rejected as unpatentable over these references further in view of McCarthy et al. (U.S. Pat. 3,956,726). The applicants respectfully traverse the rejections.

The applicants submit that claim 1 is not obvious over Majumdar et al. and Drake et al. in view of Ishigami. The action does not make out a *prima facie* case of obviousness. For example, the action does not point to disclosure that would suggest or motivate one of ordinary skill in the art to combine the references. In fact, Drake et al. teach away from the claimed invention by stating that the thermally conductive, electrically insulating heat sink (12) is not adequate for high duty cycles and high power levels. (See Drake et al., col. 1, lines 47-51.) Drake et al. would therefore appear to suggest that the heat sink (12) is not effective for high power operations that may be associated with a semiconductor power module that includes a power circuit, thereby teaching away from the device. Furthermore, the heat sink (12) of Drake et al. is clearly separated from the leads (21), and does not disclose a heat sink that contact a lead frame. (See Drake et al., Fig. 1B.)

Neither Majumdar et al. nor McCarthy et al. overcomes the deficiencies of Drake et al. Majumdar et al. disclose a heat sink (1) separated from the lead frame (3) by an insulating resin (2). McCarthy et al. merely disclose a heat detecting circuit and does not disclose or suggest any structure remotely similar to the heat sink recited in claim 1 of the instant application. The action notes the deficiencies of Majumdar et al. and Drake et al. for failing to disclose that the heat sink contacts the second surface opposite the first surface of the lead frame.

However, the action is incorrect in asserting Ishigami for the proposition that Ishigami discloses a heat sink (11) contacting a second surface opposite a first surface of a lead frame (15). Rather, Ishigami discloses an insulating paste (19) disposed between the lead frame (15) and the heat radiating fin (11) for the purpose of thermally bonding, but electrically insulating the second bed portion (16), which is part of the lead frame (15), from the first bed portion (12), which is part of the heat radiating fin (11). (See Ishigami, col. 3, lines 17-24.)

**EXPEDITED PROCEDURE  
GROUP ART UNIT 2814**

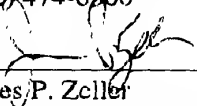
Therefore, Ishigami cannot disclose a heat sink contacting a second surface opposite a first surface of a lead frame because of the intervening insulating paste (19). Moreover, there is nothing to indicate that the heat radiating fin (11) of Ishigami as having an electrically insulating property, and could therefore suffer from the same deficiencies that are present with Majumdar. In fact, the use of the insulating paste (19) to electrically insulate the lead frame (15) from the radiating fin (11) would tend to suggest the radiating fin (11) does not possess electrical insulating properties. The action's rejections of claim 1 and claims 2-6 and 8-11 dependent thereon are therefore improper for failing to cite references that teach or suggest all of the claim limitations of independent claim 1, whether taken individually or in combination. It is clear that a *prima facie* case of obviousness cannot be established where all the limitations of a claimed combination are not taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See also MPEP 2143.03.

Accordingly, the applicants respectfully submit that all pending claims are patentable over the art of record and should be allowed. In the light of the foregoing, the prompt issuance of a notice of allowance is respectfully solicited. Should the examiner have any questions, he is respectfully invited to telephone the undersigned.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN  
6300 Scars Tower  
233 South Wacker Drive  
Chicago, Illinois 60606-6357  
(312) 474-6300

By:

  
James P. Zeller  
Registration No. 28,491  
Attorney for Applicants

February 6, 2003

**MARSHALL, GERSTEIN & BORUN**  
ATTORNEYS AT LAW  
6300 SEARS TOWER  
233 SOUTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606-6357  
(312) 474-6300  
FAX: (312) 474-0448

February 6, 2003

b2

**FACSIMILE TRANSMISSION SHEET**

**TO** Examiner DiLinh Nguyen  
**COMPANY** U.S. Patent and Trademark Office  
**FAX NO.** (703) 308-7722  
**PHONE NO.**

**FAX RECEIVED**  
FEB 6 2003  
TECHNOLOGY CENTER 2800

**FROM:** James P. Zeller  
Marshall, Gerstein & Borun  
**EXTENSION:** 802  
**PAGES (INCLUDING THIS PAGE):** 7  
**CLIENT NO:** 29347  
**MATTER NO:** 990488  
**PLEASE CONFIRM RECEIPT:** No  
**COUNTRY CODE:** US

**MESSAGE:**

*Please contact Chris Dolak at (312) 474-6802 if you do not receive all of the pages in good condition.*

\*\*\*\*\*

*The material of this transmission contains confidential information intended only for the addressee. If you are not the addressee, any disclosure or use of this information by you is strictly prohibited. If you have received this facsimile in error, please notify us by telephone immediately.*